



—*Yellowstone National Park*

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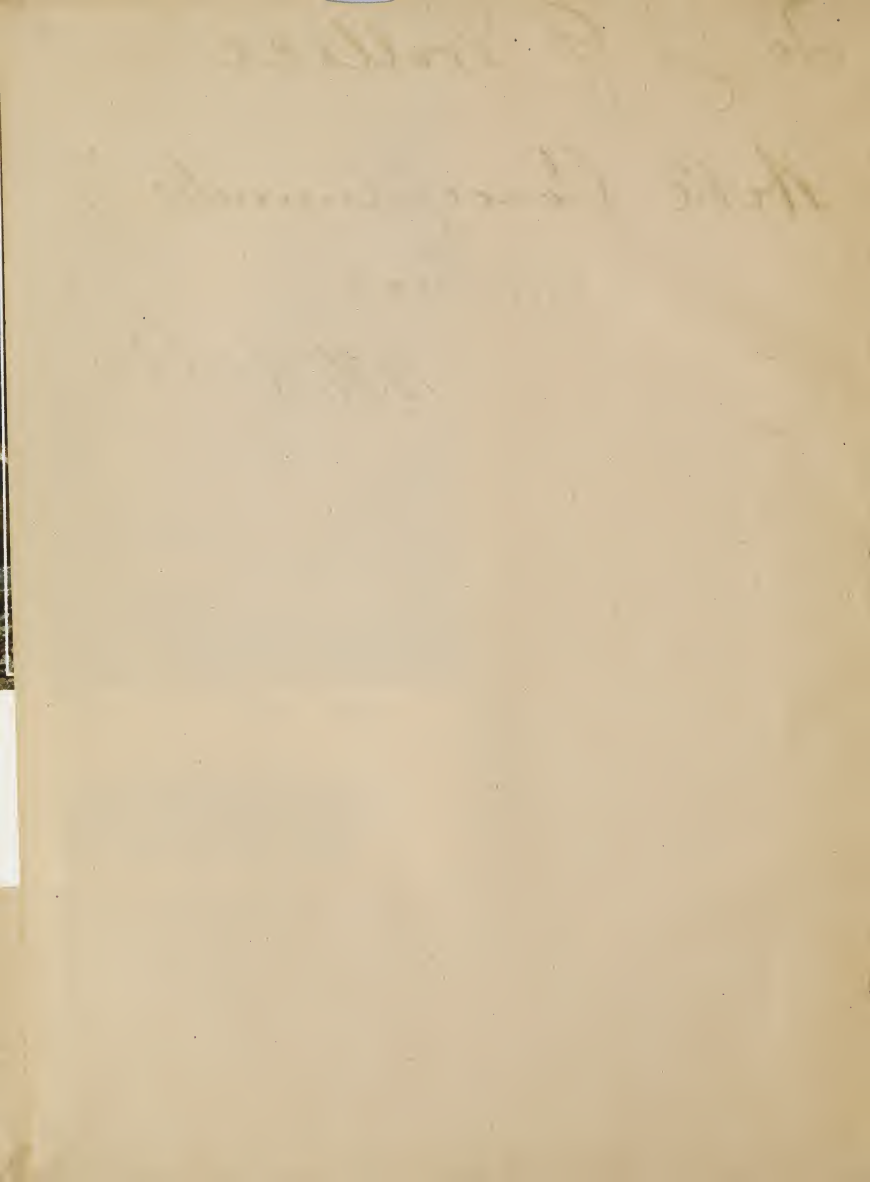


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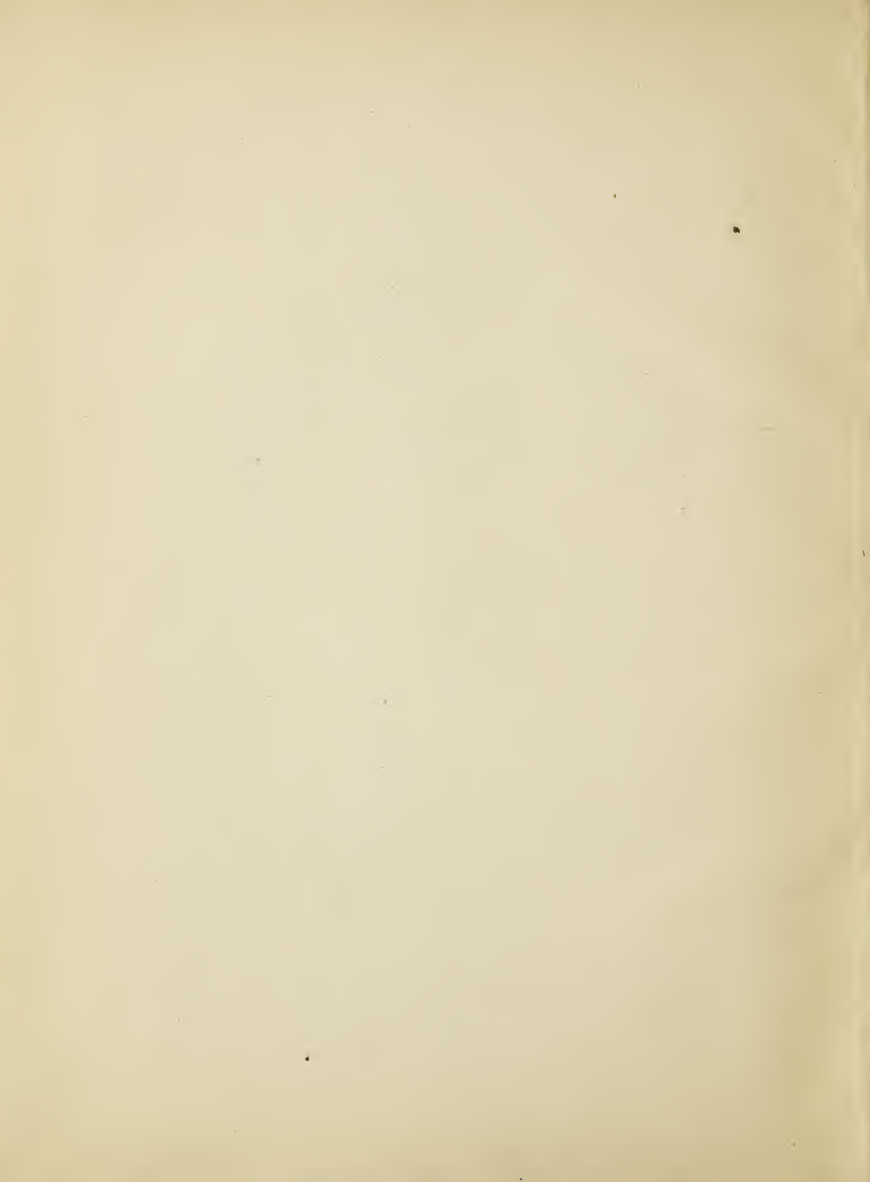
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—OR THE—
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PEARL POOLS, MAMMOTH SPRINGS.

YELLOWSTONE NATIONAL PARK;
OR THE
GREAT AMERICAN
WONDERLAND,

A COMPLETE DESCRIPTION OF ALL THE WONDERS OF
THE PARK, TOGETHER WITH DISTANCES, AL-
TITUDES, AND SUCH OTHER INFOR-
MATION AS THE TOURIST OR
GENERAL READER
DESIRES.

A COMPLETE HAND, OR GUIDE BOOK FOR TOURISTS.

BY W. W. WYLIE.

WITH ILLUSTRATIONS FROM PHOTOGRAPHS
BY H. B. COLFEE.

KANSAS CITY, MO.:
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PREFACE.

This little book is not offered as a scientific description of the *National Park*, nor is it written for an inducement to those who may read it to visit the Park, neither as the recital of the experiences of one who has visited this remarkable land, but for the following reason:—

The author, in a tour of the Park, saw the very evident need of a plain, simple hand-book to guide and aid the tourist in his rambles in Wonderland.

All tourists do not feel able to hire guides; and since plain roads are now open to all points of interest, what is needed, it seemed to the author, is a *real guide-book*. It was during this first tour of Wonderland that the purpose was originated to *try* to prepare such a book.

First, the author examined all the books he could find written about the National Park, whether intended for guide-books or not. But no *real guide-book* has he found; but several books, written by persons who had made hasty trips through this great Wonderland, were enraptured by what they found, and wrote to describe

the marvelous wonders, and to give their own and their associates' experiences.

These books are indeed very interesting, but as guide-books they are failures, and doubtless never were intended to be used as such. Then, most of these books are old; and since the Park, through the enterprise and perseverance of the Superintendent, Col. P. W. Norris, has developed or brought to view so many new wonders within the past *two years*, such books must necessarily be out of date for the tourist of to-day.

Having formed the purpose to write a guide and description book, the author made two more careful tours of the Park, in order to as thoroughly as possible fit himself for the task; and as he met hundreds of tourists in this land the present summer, many without guides at all, and others with grossly incompetent ones, he became all the more firmly convinced of the great need of just such a book as he has *attempted* to make of this little volume. How well he has succeeded, remains for those to say who have either visited the Park, and may read it, or who may see fit to take it with them as they go.

Enthusiastic descriptions of objects and scenery have not been attempted. Occasionally, however, a fine description is quoted from some other author, whose name is always found in connection.

The author has observed, while witnessing very many people beholding for the first time these great wonders, that they like to form their own opinions and descriptions of what they see; so he has endeavored to be very plain in his explanations, answering only those questions that are most likely to be put to a competent guide.

The most the author hopes to hear said of his book is that it is *plain, truthful, and practical.*

Compared with other LITERARY productions on the same subject, he expects it to fall; compared with the great National Park and its wonders, he expects it to
STAND.

W. W. WYLIE.

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INTRODUCTION.

All books, save one, that I have seen descriptive of the Park, begin with a description of the route from Bozeman. This has hitherto been considered the only natural route of entry to the Park. It is from this point that Prof. Hayden and other official and scientific visitors have entered, and Colonel Harris, the Superintendent of Park, outfits at Bozeman and enters from there. However, last season a road was opened into the Park direct from Virginia City, but I find tourists, generally, complaining greatly of an immense hill or mountain to be climbed by this route. From Virginia City to the Park is ninety-eight miles. From Bozeman to Mammoth Hot Springs is seventy-three miles; the road following up the Yellowstone River being a pleasant and good one. For the following reasons the natural and most satisfactory way to visit the Park is to enter at Mammoth Hot Springs, and go around by the Geyser Basins, over to Lake, down by Falls and Cañon, and back to Mammoth Springs, just as indicated in this Guide-book.

The reasons are these: By this route all the objects of interest are seen in order of a climax, the less interesting after leaving Mammoth Springs first, and the

more wonderful towards the last. In this way the tourist is always deeply interested, and fully appreciates what he sees; while if he enters at the upper end of Park, he sees the most wonderful first. These objects of lesser importance have very little interest to him afterwards, and are only seen with something of a disappointed feeling. The objects of interest, arranged in their natural order, and in the order seen as described in this book, are as follows : —

First, the Mammoth Springs. This is by no means one of the minor objects of interest, but it is so entirely different from anything else seen in the Park that it will very appropriately come first. Then, too, it gives the tourist a wonderfully satisfied feeling to behold this marvelously beautiful wonder upon his very entrance to Wonderland. He is at once possessed with a satisfied feeling, confesses that he feels repaid already for the expense and trouble of the trip, and he is started on from here with a satisfied air.

Next in their order are Rustic Falls, Obsidian Cliff, Lake of the Woods, Norris Geyser Basin, Paint Pots, Monument Geyser Basin, Gibbon Cañon, Gibbon Falls, Lower Geyser Basin, and last, the great crowning point of all wonders, the Upper Geyser Basin. By this time the tourist experiences a full sense of satisfaction, so far as the *wonderful* is concerned. He feels a strong desire to witness what in the Park may be classed more accurately under the head of the grand and beautiful; so he is taken across to the Lake. He experiences a sense of relief at getting away from

the odor and sight of so much hot water. From the rest and quietness at the Lake, he is taken to the Great Falls and Grand Cañon. Here the sensation is that of *quiet* wonder and amazement, while at the Geysers it is that of *excited* wonder and *delight*. At the former place he desires, as he beholds, neither to speak nor be spoken to; while at the Geysers he cannot himself refrain from shouting. Hence it is not only from our own experience, but from that of others frequently heard expressed, that we conclude that the cause or order given in this little work is the most natural and satisfactory way in which to view the Park. This is a fact which the Northern Pacific Railroad will, no doubt, take advantage of in their subsequent advertisement of the Park. This road is now rapidly advancing, and, I am authoritatively informed, will reach the point of their line nearest the boundary of the Park the coming season; and it is their purpose to immediately construct a branch road leading into the Park, for the express accommodation of tourists.

For the many who enter the Park from Virginia City or that way, the book will be found to answer just as well, as they will only need to turn to the part indexed "Lower Geyser Basin," page 25, and follow it through; turning to first part when they come to Mammoth Springs, and following it up to "Lower Geyser Basin."



BATH POOLS, MAMMOTH SPRINGS.

YELLOWSTONE NATIONAL PARK.

MAMMOTH HOT SPRINGS.

This portion of the Park is the most difficult to describe, and for this reason the accompanying cuts are given, believing that a better idea can be gained from these than from any description I can give. These illustrations are from photographs taken by Mr. H. B. Colfee, and some idea of the extent of this great mountain of springs may be obtained from the statement that hundreds of photographs might be taken of these Springs, each being entirely different from any of the others. This mountain has grown, and is still growing toward the East. These springs are arranged in terraces, one above the other, the water depositing the sediment which forms the growth, as it runs over the edges of these beautiful bowls. The springs are constantly changing; water is not running over all these bowls—some seem to be deserted entirely; others are left dry for a year or two, then water comes into them again. Those which are dry are snow-white, while those which are active are

colored—by ingredients of the water—sometimes red, indicating the presence of iron in the water; at others bright yellow, indicating sulphur; and there are many other bright and beautiful tints, one of the most beautiful of which is a delicate green. But all turn to snow-white as soon as the water deserts them.

The water is always perfectly clear, and the chief attraction of the whole scene, to many, is the beautiful wave-motion as it spreads over the sides of these bowls, and at one place, over almost the whole side of the mountain, of equal depth but very shallow; thus it is that the whole grows evenly. The temperature of the water is usually 166°. On the summit of the Main Terrace, are little lakes of this boiling water, from which most of the water comes. A person can walk over this formation, and even on the rims of the active pools, without danger. At some places are erected racks, where the water is running over in a quantity, upon which articles are hung for the purpose of getting them coated, which is done plentifully in about two and one-half days. The present season it has been the rage to coat horseshoes. Silver, glass, wood or leather will take this coating just as well as iron. The formation is composed of lime, soda, alumina and magnesia.

The author realizes that this is a very poor description of these marvelous springs, but a more particular

description would consume too much space. Trusting that, with the accompanying illustrations, what has been said may serve to give some idea of their appearance, we leave the subject.

There are other objects than the springs themselves of great interest. In this locality, at different places on the large flat below the springs formation, are found openings which lead to great caves. Into some of these a person may descend from 50 to 150 feet. Liberty Cup is also found near the base of Springs Mountain. It is nothing more than the crater of an extinct geyser. It is forty-seven feet high, and has a small opening in the top. There is a supply store here, and hotel also. There are bath-houses kept up by the proprietor of the hotel, and rented at a small fee. The National Park Capitol, or Headquarters Building, is situated on the summit of a high hill, or knoll, just east of Springs Mountain. A post-office, with weekly mail service, is kept here, the only post-office at present near the Park, the daily mail service of last season, into and through the Park, having been discontinued, a result of the Star Route investigations.

Another interesting feature of this hot-water locality is a beautiful cold-water stream, coming from an ice-cold spring a short distance back of the hotel. It is a boon to be prized in this locality.

FALLS OF MIDDLE GARDNER RIVER.

These Falls and cañon below are about five miles from the Springs, directly south; a good trail leads to them. The cañon is, in itself, a sight well worth the short ride required to reach it, but the Falls are the chief interest here. The water falls in the form of a cascade 300 feet; 100 feet of this is a direct fall.

DEPARTURE FROM MAMMOTH SPRINGS.

Leaving the Mammoth Springs, the tourist begins the ascent of Terrace Mountain, over the excellently graded, but wonderfully steep wagon road, leading to the right of the Hot Springs' terraces. With a loaded wagon and four horses, this three miles of ascent is a fair half day's work. It is not one continuous grade or hill, but a succession of hills, with short resting slopes between. After an ascent of nearly 3,000 feet, the road enters a beautiful, high, meadowed valley, and takes an almost direct southward course, with a few slight variations to and through the three Geyser Basins. After entering this valley and traveling about one and a half miles southward upon the main road, a dim trail is found leading off to the left. Following this for a distance of one-half mile brings the tourist to the upper entrance of the beautiful cañon of the West Gardner, and just at the entrance to the cañon is found

RUSTIC FALLS.

Sights well worth the expenditure of much more time and trouble than it requires to reach them.

The water falls here sixty feet over a large slightly curved rock of this height, whose surface is wrought into shallow scallops, or cup-like forms, on its surface, which causes the water, in falling, to take the peculiar shapes which give rise to the name "Rustic Falls." These Falls are five miles from the starting point at springs.

About four miles farther on, a clear, rapid stream running eastward is forded. This is one of the branches of the Middle Gardner; and another is crossed in less than a mile farther on. Although in appearance a fine trout stream, there are no fish of any kind in them; and that the patience of those who delight in sport with rod and line may be reserved for necessary occasions, the author will here state that no fish can be found before reaching *Yellowstone Lake*, in this tour of Wonderland. This fact will be admitted as one of the *Wonders*.

WILLOW PARK—FINE CAMP.

About fifteen miles from the springs, just before entering Obsidian Cañon, is Willow Park, one of the finest camping places in the Park. No tourists should attempt to go farther than from the Springs to this point in one day with wagons, as it is about ten miles before

another good camping place is reached. From Willow Park it is two miles to *Obsidian Cliff* and Beaver Lake.

OBSIDIAN CLIFF

Is composed of basaltic columns of volcanic glass, a species of lava. It is deep black but clear and beautiful. Some fine specimens of red are found among it. Many beautiful specimens of this material can be picked up here—as the road has been quarried out from the edge of the cliff, and the horses tread over the finest specimens of it.

It takes its name, according to Pliny, from a person named Obsidius, who first found it in Ethiopia. The little stream passing here is also one of the branches of the Middle Gardner River. About two miles farther on the road leads over a high hill, the divide between the waters of the Gardner, which flow into the Yellowstone, and the Gibbon, which flow into the Madison River.

On the right, as one ascends this hill, is seen the first indication of geyser basins. This one is of little interest, however, there being nothing active there now; simply some boiling springs having a very disagreeable odor.

From the summit of this hill, looking toward the west, is obtained one of the finest views of mountain scenery anywhere to be found. These mountains are of the Madison Range.

LAKE OF THE WOODS.

On the summit of this divide, is a beautiful little lake, seen at left of road, and called "Lake of the Woods;" a very appropriate title, surrounded as it is by a dense growth of lofty pines.

Along the road for the next two miles, are seen many evidences of former geysers' and warm springs' action.

Soon after the road enters Norris Geyser Basin, a beautiful park. Fine camping grounds, as there is plenty of excellent grass, and easy picketing for horses. Numerous cold-water springs close to the road on the right, and wood (as is always the case) plentiful.

Nearly five miles farther on the Norris Fork of Gibbon is crossed. Here also is good camping ground. By stopping here, tourists can make thorough inspection of the Norris Geyser Basin, which is located on each side of the road one-half mile ahead.

NORRIS GEYSER BASIN.

At first sight this Basin does not present a very pleasing appearance. But upon close inspection and examination, there are found many things of wonderful interest and beauty. Passing along the ridge from sign-board to the right, many boiling springs and pools are found of different colors—yellow as pure sulphur, blue as the sky, white as snow, and dark as ink. Large fry-

ing pans, hissing and steaming with intense heat; under-ground rumblings, reminding one at once of the sound of burs and machinery in an immense flouring mill.

On the flat toward the southwest, is seen a geyser called the "Constant," spouting twice every minute, and the first geyser seen by tourists entering the Park from this way. A small geyser, like a beautiful fountain, near the Constant, is going all the time. Farther along the road at the highest point in this Basin and about twenty-five yards to the right of the road is a mud geyser which operates about every twenty minutes. It throws its lead-colored mixture to the height of about ten feet; some spurts are much higher. The mixture is about the consistency of thick paint. During the pulsations, which last about eight minutes, the forms which the muddy water assumes are most grotesque and beautiful; and after the eruption has ceased, and the water has all run back into the orifice, the observer can obtain from the crater some of the finest specimens found in the Park.

At the left of the road, and within one rod of it at the same place, is the "Emerald Pool," which many have pronounced the most *beautiful* thing in all Wonderland; and for simple beauty it surely cannot be surpassed. The water is a beautiful emerald green—clear

as crystal. The coral walls, most beautifully shaped, can be seen to an appalling depth. By *all means*, spend some time at this beautiful pool. Look into it from all sides.

Farther along the road, and just at the foot of the hill, is the "Minute Man Geyser;" and up against the bluff, east of this, is a geyser called the "Mammoth," which throws a large quantity of water to the height of about 100 feet, and discharges about once in twenty-four hours. There are a few other geysers in this Basin, but they are not of special interest. This Basin was not visited by or known to the earlier visitors and explorers of the Park. So there is no description of it found in their works.

GIBBON BASIN OR MEADOWS.

Six miles farther on, is the *Gibbon Basin*, a beautiful meadow about five miles in circumference, surrounded by thickly wooded hills and mountains, the Gibbon River meandering quietly through it. It is not needful to mention that this is a fine camping place, but tourists need to be cautioned not to continue their journey from this place in the after part of the day, as there is no grass between here and Lower Geyser Basin, which is seventeen miles distant.

PAINT POTS AND BLOOD GEYSER.

Passing around the bluff eastward from this Basin,

are found—one-half mile distant—the beautiful *Paint Pots* and a *Blood Geyser*. Many tourists have difficulty in finding these. Follow into the timber at the point where there is a pen of logs thrown together for helping to catch horses; a blazed trail will be found at this point. This is at the southeast corner of Basin, close to the wagon road, and near the little stream that comes in there, called *Geyser Creek*. The water of the Geyser comes through the red mud, and thus the water is colored; hence the name “Blood Geyser.” This Geyser is irregular, acting two or three times each day. The Paint Pots are very fine and of different colors.

MONUMENT GEYSER BASIN.

At the entrance to Gibbon Cañon, on leaving this Basin, or Meadows, a sign-board is observed on the west bank of stream, and at the end of a foot-bridge; the sign reads, “Trail to Monument Geysers, on Mt. Schurz.” It is one mile to this interesting little Basin. Although the foot-bridge would indicate that the tourist should walk up the mountain, yet it is very easily ascended on horseback. The author’s wife, together with one other lady, were the first ladies who ever visited this Basin. They rode their horses both up to and down from this elevated Basin, which is 1,000 feet higher than the bed of the river. Horses can be forded just below the bridge

by taking care to keep them from stepping into the boiling water, which is plentiful in the edge of the river at this place. Monument Geyser Basin has only been open to tourists for two seasons. Here are found monuments as hard as granite, smooth and perpendicular ; all have an opening in the top ; some are extinct, others are sending forth steam, but none are throwing water at present.

These monuments are from six to twelve feet in height. The most interesting thing, however, in this Basin, is a dry stream, or hot-air escape vent, an orifice in the rocks, where the steam is so dry as to be scarcely perceived, escapes with a constant noise, so loud as to make it impossible to hear or understand the loudest conversation while standing near it. Upon approaching it, the hands are almost unconsciously placed over the ears. It is undoubtedly the noisiest thing in the Park.

In this little Basin are also found fine specimens of pure sulphur crystals, boiling pools of differently colored water, frying-pans, etc. No tourist should omit visiting this wonderful place. The view one gets from this summit of the Gibbon Meadows and river, alone rewards for the trouble of the ascent.

GAME IN THE PARK.

In the northwest of this Gibbon Basin is considered

a good locality for elk; indeed, they are often seen upon these Meadows in the early morning. But tourists must not expect to find game *plentiful* in any locality of the Park. To find it at all, one must go far back from the roads and trails, and upon the highest places, where it ranges during the warm months to escape the flies. It takes experienced hunters to get game now, and I am of the opinion that ere many years almost all kinds of game will cease to inhabit the Park.

GIBBON CAÑON.

Leaving this beautiful Basin, one of the most delightful camps in all Wonderland, the tourist immediately enters the Gibbon Cañon. There are Geysers, Laundry Springs and boiling pools close by the road-side, in passing through the Cañon. There is much fine scenery also. The Cañon wall at one place is 2,000 feet high on the right of river. After passing the hot water and these great cañon walls, the Falls are reached.

GIBBON FALLS.

These Falls are about six miles from the entrance to the cañon, are close to the road-side and cannot be missed. The water falls over a beautiful ledge eighty feet. There is a trail to foot of Falls, as well as one to near the brink. About eleven miles farther brings the

tourist to the Lower Geyser Basin. There is little of interest in this eleven miles, unless it be a hill at Cañon Creek.

LOWER GEYSER BASIN.

Upon entering this Basin, by taking the right-hand road and crossing the two forks of the Fire Hole, or head-waters of the Madison, the hotel breaks into view. At this point the Virginia road enters the Park. The hotel is kept by G. W. Marshall, and much is said of his hospitable treatment of guests. He also keeps a supply store, which fact is pleasing intelligence to most tourists, since by this time most find that their appetites have been undervalued in their estimates of amount of food needed. In fact, one of the greatest wonders the tourist meets with in the Park is his own appetite.

DIFFICULTY WITH THE TOURIST.

One of the greatest difficulties in the management of tourists now arises. It is, that in his eagerness to get to the Upper Geyser Basin, where are the greatest wonders, he neglects to visit thoroughly the Lower Basin. Says he "will take that in" when he comes back. But when he has visited the Upper Basin, he does not care for anything that may be found in the Lower Basin. This is the almost universal experience

of all who go to Upper Basin before visiting the Lower.

One cannot enjoy the sights of the Upper Basin more for not having seen and enjoyed the Lower first. Hence I would *urge* all who read this book, all who desire to make the most of their pleasure trip—to thoroughly “do” the *Lower Basin first*.

We will suppose you are at the hotel. Go from there two miles south through Geyser Meadows to Queen’s Laundry, where the superintendent has arranged conveniences for bathing. There are some geysers and many other objects of interest near the Laundry. Fairy Falls Creek enters Fire Hole River near here. The Falls are not far distant, where the water falls, or makes a leap of 250 feet perpendicularly.

To all of these objects of interest, the verdant meadows, skirted by romantic groves of pines, add to the beauty and general interest of the surroundings. Returning to the hotel, the tourist recrosses the two streams, follows the wagon road towards the East, crosses the East Fork again on the road leading to the right, from where the wagon road crosses the formation of the lower end of the Basin—he can ride or drive near to all objects of interest. There are but few geysers of interest in this Basin. The large pools, easily distinguished by the great bodies of steam rising from them, are the

chief attraction in this Basin. Approaching near to them (on foot), one can look down through their beautifully tinted but wonderfully clear waters to immeasurable depths. The fantastically shaped and coral decked walls are objects of beauty that cause the beholder to give vent to involuntary exclamations of wonder and surprise.

FOUNTAIN GEYSER.

Upon the eastern summit of the formation is found the principal Geyser of this Basin, The Fountain, which has a crater 150 feet in circumference, enclosing a crater twenty-five feet in diameter. From this inner crater the water is thrown up in a vast column sixty feet high, falling back in glistening globules—a natural fountain of marvelous beauty. This Geyser acts about every six hours, and the length of time it continues in action is more than one hour. As the beholder stands near, he feels and hears the heavy under-ground thuds which are almost instantly followed by the highest jets or columns. When this Geyser is not acting, the crater usually is full of the most transparent water; and into its clear depths one may gaze, beholding a fairy-like palace adorned with more brilliant colors than any structure made by human hands can be. In the beautiful bowls, or “pot holes,” which

surround this crater, and are constantly kept filled with this clear water, may be found many names of tourists, written with lead-pencils, some of which have been there eight years.

MUD OR PAINT POTS IN LOWER BASIN.

A few rods eastward from this Geyser, through scattering trees, are the most remarkable Paint Pots in Fire Hole Valley. They cover an area of seventy by forty feet in diameters. The surrounding rim or crater is about four feet high, and may be walked upon with perfect safety. The southern end is almost snow-white boiling mud, the northern is a bright pink. The latter, being somewhat thicker in consistency, has formed numerous little mounds or craters, with orifices from which mud is thrown at small intervals, and which keep up a noise similar to but greater than that of thickly boiling "hasty pudding." The white is agitated over its entire surface. Bits of the mixture are thrown up from the surface, which, when falling, form beautiful little circles or rings, which keep their shape until changed by another disturbance ; and this very soon follows.

These disturbances, peculiar shapes, and singular noise, made by the escaping gases and steam, are most interesting and truly wonderful.

This mud is an impalpable, silicious clay.

Some distance east and southeast from Paint Pots, are a few geysers and boiling pools, but not often visited by tourists—not possessing features differing in interest from those already seen. The above described are the chief objects of interest in the Lower Geyser Basin, and should be thoroughly viewed by all tourists. This will not require more than one day at most.

From Marshall's Hotel to the Upper Basin is eleven miles, or about nine from where the road crosses the formation of Lower Basin.

MIDDLE GEYSER BASIN OR "DEVIL'S HALF ACRE."

This interesting locality is on the opposite side of the river from the road, and about half way between Upper and Lower Basins. It is clearly visible—cannot be missed. A road is found leading across the river here. This locality is perhaps better known as *Devil's* or *Hell's Half Acre*, although the much preferable, though not more appropriate, name of Middle Geyser Basin has been given it by the Superintendent of the Park.

There are many interesting things to be seen here. The group includes some of the grandest hot springs in the world. The most formidable is near the margin of the river. Of it Prof. Hayden in his report says:—

"It seems to have broken out close by the river, and

to have continually enlarged its orifice by the breaking down of its sides. It evidently commenced on the east side, and the continual wear of the under side of the crust, on the west side, has caused the margin to fall in until the aperture, at least 250 feet in diameter, has been formed, with walls or sides twenty to thirty feet high, showing the laminae of deposition perfectly. The water is intensely agitated all the time, boiling like a caldron, from which a vast column of steam is ever rising, filling the orifice. As the passing breeze sweeps it away for a moment, one looks down into this terrible, seething pit with terror."

MIDDLE GEYSER BASIN.

This pool discharges an immense amount of water constantly, which is pouring into the river, coloring the bank most exquisitely, as well as the broad surface over which it runs before reaching the river bank. All artists who visit the Park are fascinated by the opportunities here presented for a display of their skill in coloring.

There are many more of these springs or pools here of the next in size. Strange as it may seem, it must be said that the present season it acts as a Geyser, operating about once in twenty-four hours, and with greater violence than any other in the Park. As General Sheridan, this season (1881), was coming by this Basin on his way from the Upper Basin, this Geyser

gave a fine display, an account of which is the following:—

SHERIDAN GEYSER.

“The second in size of these great springs has quite recently turned itself into a spouting Geyser, and it has been named the ‘Sheridan,’ in honor of the gallant Lieutenant-General Phil. Sheridan. Its eruptions are yet irregular. On Sunday morning, August 28, 1881, the day General Sheridan left the Upper Basin with his party, this remarkable Geyser spouted up a solid body of water from sixty to seventy-five feet in diameter, to a height closely estimated at 300 feet. The display lasted a number of minutes, and is pronounced by those who witnessed it to be one of the grandest sights ever beheld in Wonderland.”

UPPER GEYSER BASIN.

Leaving this interesting Middle Basin, the tourist passes on about five miles farther and enters the Upper Basin, which Basin contains the crowning wonders of *Wonderland*. In the description given of geysers in this Basin, there will be only an attempt to explain their action and to give facts concerning them, simply and plainly, so as to aid the tourist; and no attempt at descriptions of their grandeur.

The accompanying chart will give an idea of the location of the principal Geysers. As the Basin is

entered at the north, I have headed the map south, thinking that the most natural way.

DESCRIPTION OF GEYSERS.

Old Faithful, so aptly named by the first exploring party in 1870, because of its wonderful regularity, is situated at the very head of the Geyser Basin, standing there like a faithful sentinel, true to his regularity day and night. winter and summer. Every hour he lifts himself up, as it were looks over the whole Basin, then quieting down, awaits the appointed moment when this action is repeated.

This Geyser acts differently from every other one. While it is said to act every hour, it is more accurately stated by saying that it is just one hour from the time it ceases action until it begins again. The column of water is held up steadily and majestically about 160 feet for about five minutes, when it begins to weaken, and in less than two minutes is all quieted down, and gives no other disturbance than the plentiful issue of very hot steam, until time for the next eruption.

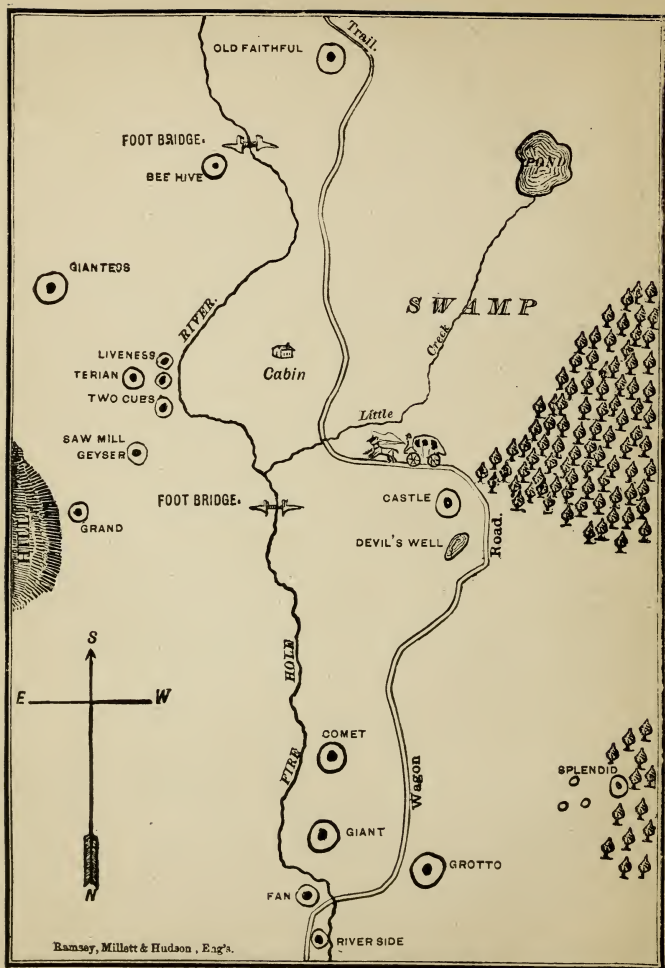
The formation about the crater of this Geyser is one of the greatest wonders, as well as beauties, of the Park. It is so firm as to be unyielding to the tread, and yet as delicate in appearance as the finest coral formation.

THE CASTLE.

The Castle has, in ages past, been one of the greatest, if not *the* greatest, Geyser in the Basin; it is the noisiest one now, and could it have more water, would not be outdone by any of them. It is throwing up jets of water to heights of from ten to twenty or thirty feet every few minutes, and those not accustomed to its actions are deceived into the belief that it is going to "go off." It acts sometimes once a day, but oftener does it act every second day. When it waits two days, it gives a very fine display, the water lasting about thirty minutes, and is thrown over 100 feet high; and after the water is done, the steam escapes in immense quantities, and with a noise that can be heard miles distant. The entire mound or formation of this Geyser is forty feet high; the chimney or crater proper is twenty feet high. The formation about this Geyser is like cauliflowers or spongiform corals.

DEVIL'S WELL.

The beautiful pool about three rods to the north of this Geyser is called the "Devil's Well." It is an object of great admiration. Its waters have that unnatural clearness characteristic of most of these beautiful boiling pools. Tourists often cook in this pool by setting the camp-kettle in it partly filled with water and the beans



Ramsey, Millett & Hudson, Eng's.

or other material desired to be boiled. The temperature of some of these springs is higher than can be obtained by boiling water in an open vessel on the fire in same locality.

BEE-HIVE GEYSER.

The Bee-hive is, in respect to symmetry, the finest Geyser in Wonderland; the accompanying illustration gives an accurate representation of it. The cone is three feet high, the orifice two feet by three feet in diameter. By accurate triangular measurement it is found to throw its boiling column 219 feet high. The eruption lasts about eight minutes, the water being held up during this time as shown in cut. This Geyser acts about once in twenty-four hours, sometimes oftener. I have seen it act twice in the daylight part of one day. A little steam orifice, about twelve feet above the cone of the Geyser, almost without exception, gives warning from fifteen to thirty minutes before the eruption of the Geyser. The writer never knew this faithful little monitor to fail before the present season, when he witnessed it play at two different times for thirty minutes, and then cease; and the Geyser did not act. Although the Geyser may fail to act always when the vent warns, the Geyser *never* acts without the vent giving warning; so it is *generally* safe to heed the warning given by this little vent, and to call your

friends and fellow sight-seers to assemble near the Bee-hive.

THE GIANTESS.

The Giantess is upon the summit of the formation, about 100 yards to the northeast of the Bee-hive. It is a large oval aperture, with scalloped edges, the diameters of which are twenty-five and eighteen feet. This Geyser is very irregular, acting once in *about* fourteen days. The crater is usually full and boiling gently; gives no warning of an approaching eruption. The beautiful walls may be seen to a great depth through the wonderfully transparent water.

When this Geyser does act, the eruption at intervals of about forty minutes lasts for twelve to sixteen hours; so that, although it may begin in the night, it may be seen in daylight. When it begins an eruption, for some minutes it throws 250 feet high, but after this not eighty feet high. Its action is very much like that of the Splendid, in viewing which one finds a very good substitute for the Giantess.

LION, LIONESS AND TWO CUBS.

The group of four active craters on the point near the river, just across from the Cabin, is composed of four Geysers. The highest crater is called the "Lion," and acts independently of the other three. The Lioness and

Two Cubs act sometimes in unison; and when they do, are a pretty sight, although they do not throw water to a very great height. There is no regularity as to the time of the action of any of this group. The next Geyser of great importance on this side of the river is the

GRAND GEYSER.

This is without doubt the most satisfactory Geyser in the whole Park, and all seeing it in action will pronounce it most aptly named. It is just at the foot of a low, rocky bluff, eastward and across the river from the Castle. The raised and usually agitated crater is not the Geyser orifice, as one would naturally suppose, observing it when not in eruption. The Geyser proper is the orifice in center of a shallow basin, or pool, just south of this crater, an orifice about two by three feet in diameter.

The Geyser acts irregularly about twice in twenty-six hours. There is no warning of any certain character before an eruption; but as the Geyser seldom acts for a less time than twenty minutes, tourists can get to it in time to witness its best action. The under-ground pulsations can be heard and felt to a great distance. This Geyser's action is entirely different from all the others. The first action is very violent, a series of charges and surges, shooting jets to great heights and

at different angles. This action lasts eight or ten minutes; then it all settles down quietly at the Geyser orifice. The water covers over, no steam escapes, and for a little more than a minute it is calm and quiet, when suddenly it is heaved as by a mighty impulse, and the column rises perfectly straight up to a height of 200 feet, and is held there for several moments; then is followed by jet after jet for some minutes, when, as suddenly as it arose, it quiets down again just as before, waiting the same length of time, when the third pulsation is made, similar to the second. This is repeated usually until seven of these pulsations, or periods of action after repose, are completed—*usually* seven; but the writer has seen but five, and again nine and ten, and *once* eleven pulsations. When it is confined to seven pulsations, the time occupied in the whole action is twenty minutes.

Because of these separate pulsations—the quieting and beginning again, the wonderful power displayed, and the dizzy height to which the water is projected—this is regarded by most tourists as the *favorite* Geyser. This is truly the “*Grand Geyser*.” There is a powerful steam vent about forty feet to north of the Geyser orifice, which operates most violently during the whole period of the Geyser’s action; but all the steam ceases, and the water sinks out of sight in both craters when the Geyser is done.

SAW-MILL GEYSER.

There is a Geyser toward the Cabin from the Grand, and about half way between Grand and the river, which is called the "Saw-Mill" because of its puffing and peculiar motion; it acts about half the time. Standing by it, one can see the large bubbles of steam and gas ascending, which explode on or near the surface of the water, and cause the peculiar noise which gives rise to the name, as well as projecting water to the height of about twenty feet.

There are many other agitated boiling pools and noisy little craters in this vicinity, from some of which water runs constantly to the river in little rivulets, the bottoms of which are most delicately and beautifully colored. Many persons write their names with lead-pencils in these beautiful rivulets.

SPLENDID GEYSER.

This Geyser, one of the finest in the Basin, has not acted for three years, until the present season (1881). It is located almost due west from Giant, back upon a small hill. Our camp was near it this summer for three weeks, and we had the best opportunity to observe its actions. It is (this season) next to Old Faithful in point of regularity, operating at intervals of about three hours. Sometimes not more than one and one-half hours

intervened between its eruptions. It gives no noticeable warning of eruptions, beginning suddenly and acting about five and sometimes ten minutes. There is a smaller geyser east of it, which throws an oblique stream; this and Splendid often act together, which enhances the beauty of the spectacle. I have frequently seen the two joined by a brilliant rainbow. The Splendid is estimated to throw about 200 feet high. As at the *Grand*, the beholder, unconscious of the name, exclaims: "*That is grand.*" So at the Splendid, I have frequently heard the expression, "Well, that is splendid." Let us hope that this Geyser may take no more three-year rests, but rather may it continue to vie with Old Faithful in point of frequency and regularity. In point of *splendor* it is already ahead.

COMET.

Just south of Giant about thirty rods is a Geyser of some interest, called usually the "Comet," although I am at a loss to know what suggested the name. It has a large and beautiful crater, operates about four times a day, discharges a vast quantity of water, but because of the crater being so large, does not throw to a great height. If it were in Central Park, New York, it would be looked upon and visited as one of the greatest of wonders. But situated where it is, among so many

of its fellows who are so vastly superior, it scarcely gets a passing notice.

THE GROTTO.

The Grotto, situated near the Giant, at right of road before reaching the Giant, is noted only for the grotto form of its crater. This is singular and beautiful. During the action of this Geyser, water is not thrown to any great height, but it is churned about and thrown out at the holes in side, in such a peculiar style as to make it an object of great interest. The action lasts for thirty minutes, and occurs about four times each day.

FAN AND RIVERSIDE.

These Geysers, the first seen upon entering the Basin, throw each about sixty feet high, and act irregularly two or three times each day.

THE GIANT.

The Giant, the king of all geysers, remains to be described. Its crater will at once be recognized by tourists who have seen pictures of it. It is the first real Geyser at left of road after crossing river, on way into the Basin, and about one mile distant from Old Faithful, at opposite end of Basin. The Giant "goes off" (in the language of the Geyer Basins) once in four days, irregularly. All tourists should try to see the

Giant in action; such a treat as witnessing this Geyser, fully compensates for the waiting necessary to see it

It throws a column of water seven feet in diameter nearly 200 feet high. Some of the first pulsations are often much higher than this, and part of the time lower. The grandeur consists in the power displayed, the quantity of water thrown, and the length of time it acts. I have never known it to act a less time than one hour and thirty minutes, and it often goes over two hours; and during this time there is no cessation of the action, but the column is kept up constantly to a height of not less than 100 feet. The quantity of water discharged increases the volume of the river about one-half, and the river is a rapid stream about twenty-five yards wide. The quantity of steam discharged is immense, and a slight breeze is necessary to give the finest appearance to the Geyser. The constant, deep-toned roar, heard in connection with this Geyser's action, is one of the most impressive features.

There are several vents for this Geyser near to it, which keep boiling and throwing water and emitting great quantities of steam constantly while the Geyser is not in action, but as soon as the Geyser begins to act, they cease. Some of these are really geysers in themselves. The one throwing the most water is called the "Cat-fish."

Those described are the principal Geysers; there

being really only nine great Geysers in this Basin, which may be arranged in a table as given in connection with this. But tourists must bear in mind that what is true of these Geysers, this season, may not be absolutely true of them next season, since all of them, except Old Faithful, vary somewhat in their frequency and times of action; but in the main, the table will be found to be correct:—

	Time of Action.	How High.	How Frequent.
1. Old Faithful.....	4 min.	160 feet.	Every 65 minutes.
2. Bee-hive.....	8 min.	219 "	About once in 24 hours
3. Giantess.....	12 hrs.	250 "	" " 14 days
4. Castle.....	30 min.	150 "	" " 2 days
5. Grand.....	20 min.	200 "	" " 13 hours
6. Splendid.....	4 to 10 min.	200 "	" " 3 hours
7. Giant.....	1 hr. 40 m.	200 "	" " 4 days
8. Riverside.....	15 min.	60 "	" 3 times each day
9. Fan.....	15 min.	60 "	" 3 times each day

There are many objects of interest in this Basin, aside from the Geysers; but tourists usually stay too little time here, and pass that all in an excited state, rushing from one Geyser to another, as alarm is given of their real or apparent eruptions. No one should think of staying *less* time in this Basin than four days. This will give an opportunity to see the Giant and most of the others more than once. Then there are many things of interest, outside of the immediate geyser region, which should be visited, of which the following are a few:

Falls in Fire Hole River, about one and a half miles above Old Faithful, beside the trail leading to Yellowstone Lake; Black Sand Geyser, about one-half mile westward from Giant. This is not an active Geyser, but a beautiful pool; water 198° temperature. It has a crater about ten feet high, of black sand, and the formation west of it affords large quantities of the most beautiful specimens found in the Park. In this locality are found also the Demon's Cave, Fairies' Well and Soda Geyser. Before you enter the Geyser Basin, about one-half mile below the Fan Geyser, and just before descending a hill (traveling south), the road passes over a geyser formation, where there is hot water running across the road, in beautifully colored little rivulets; just above the road a few rods is observed a large pool, from which a vast column of steam is rising. The formation about this pool is, I think, the finest seen anywhere in the Park. All should stop here, alight from horses, and walk around this pool. The views obtained from different positions about it are certainly fine. This pool sometimes acts as a geyser, throwing out a large quantity of water. But I have said nothing of a *general* view of this Geyser Basin.

GENERAL VIEW OF BASIN.

Obtaining an elevated position at either end of the Basin, on a clear, calm morning, one can behold innu-

merable columns of steam ascending perpendicularly. Some are great and some are small. From a distance one is reminded of a great manufacturing city, except that instead of the vast columns of dirty smoke, there are here the white, delicate clouds of steam.

SMOKE IN PARK.

There are many names in the Park that suggest the idea of smoke. But nowhere is any smoke found except that of camp-fires ; or it may be a burning forest occasionally is seen, the result of carelessness in extinguishing camp-fires—a direct violation of one of the regulations of the Park.

FORESTS OF PARK.

This leads us to mention the forests of the Park. The great forests of beautiful pines are one of the chief attractions of the Park. The tourist rides miles and miles through dense forests, where the beholding of the tall, wonderfully straight and symmetrical pine is a constant pleasure and delight. Every variety of pine is found, sometimes mingled together, sometimes in groves by themselves. But in the midst of these forests, beautiful green parks are frequently found. So much so is this the case, that an eminent U. S. Senator, whom I met in the Park this season, said:—

“I think it is a mistake to call this a ‘National

Park.' It is a vast *Wonderland*, composed of a thousand beautiful parks, aside from the great wonders."

FROM UPPER GEYSER BASIN TO LAKE.

Having visited the Upper Basin, the next point of interest in the tour is the Lake. There are two ways of reaching the Lake. One by trail, leaving Upper Basin near Old Faithful; the other is by wagon road, via Lower Basin and Mud Geysers. Since many visit the Park without wagons, and with pack animals, which will always be the most convenient, less annoying and quickest way, because of the many hills, which, however well graded, will always be barriers to the wheeled vehicle, we will first describe the trail road to Lake.

SHOSHONE TRAIL AND LAKE.

This trail is somewhat difficult because of hills and swamps. But the Superintendent of Park so far improved it this summer as to render it quite passable. The objects of interest on this trail are, first, the Fire Hole River Falls, about one and a half miles above Old Faithful. Next

SHOSHONE LAKE

ten miles from Upper Basin. This Lake is on the Pacific side of the divide; its outlet runs into Snake River. This Lake has an area of about 100 square miles. Its surface is about 200 feet lower than that of Yellow-

stone Lake, not more than six miles distant from its nearest point. Beautiful camping grounds are found here. *No fish in this Lake.*

HOT SPRINGS CAMP ON YELLOWSTONE LAKE

Ten miles farther brings the tourist to the great Yellowstone Lake. At this point on Lake, are many hot springs, and it is known by the term, "*Hot Springs Camp.*" There are in this collection very large hot springs, from which flow great quantities of the *hottest* water, coating most beautifully the channels through which the waters run; great boiling pools, one of which is very large and *remarkably* beautiful. It has been sounded to the depth of 350 feet; and through its transparent waters, it would seem that one could see to almost this depth. Its uneven walls, coral-like in formation and singular in shape, tinted by the water's color, are surely good representations of fairy palaces. Its edge should be approached with great care, since the thin rim formed from the water's ingredients projects over the vast depth. There is here a collection of Paint Pots, even more beautiful than those described in the Lower Geyser Basin, and more extensive.

YELLOWSTONE LAKE.

The Lake is very beautiful at this point. The beholder can see to Steamboat Springs, a distance of about

forty miles; these Springs being on the edge of the Lake at northeast extremity.

Boiling water may be noticed ascending through the clear water of the Lake at many points near this camp (Hot Springs Camp). The author bathed in the Lake, where, for a depth of eighteen inches, the water indicated on Fahrenheit mercury 110° ; and below that immediately 80° . The water could only be made comfortably cool by stirring it; even then it was a *very warm bath*, when the Lake a few rods south along shore, just above Warm Springs region, indicated 45° . A singularity of the geyser and hot springs water is that it floats upon ordinary water, just as alcohol does.

DRINKING GEYSER WATER.

Geyser or hot springs water is usually good to drink when cold; not always pleasant to the taste, but in no way injurious to the health.

FISH IN YELLOWSTONE LAKE.

There are plenty of fish in the Lake, and they can be easily hooked here with grasshoppers for bait; and there are several places where the fisherman can catch, and cook the fish in the boiling pools, without either removing it from hook or changing his position. The writer has tried the experiment; caught a fish and dropped it while on line into a small geyser in edge of

Lake, just a little south of what is known as the "boiling pool" in Lake. The temperature, on account of the amount of escaping steam, was 220° . The fish was actually cooked, so that the meat fell off the bones in less than two minutes. But these fish are not good to eat; of them Col. Norris, in his last report, says:—

"No peculiarity of these regions is better established than that of the presence of long, slender white worms in the intestines and flesh of the countless large and beautiful trout of the Yellowstone Lake, named by Prof. Cope *Salmo pleuriticus*. All the trout of its cold-water tributaries below contain them, but not those above the first rapids; also the main Yellowstone above, but not below its first Falls, as I have established by frequent examination of specimens of this fish. This clearly indicates that the cause of the presence of these worms exists in the Lake; further than this, nothing has been established with regard to this phenomenon."

Many ducks, geese, cranes and pelicans are found on the Lake and its branches.

Leaving this camp, the trail for a time is very close to the Lake; but most of the time the tourist is hidden in dense forest, until within about two miles of the Natural Bridge, occasionally however getting fine glimpses of the Lake. From camp at Boiling Pool to Natural Bridge is twenty miles.

NATURAL BRIDGE.

This Wonder has been added to the list within the last year. Many tourists have passed within one mile of it, ignorant of its existence. Now the trail passes to it, and over it, for those who care to try it. The Bridge is about thirty feet long, and about five feet wide—a kind of natural railing on the lower side. From Bridge to bottom of ravine, at lower side, I should judge to be about eighty feet; not so deep at upper side. There is a cascade water-fall under the Bridge. From Col. Norris' report I take the following description of it:—

“What is now the Bridge was once the brink of a cataract nearly 100 feet high, over a ledge of peculiarly hard, durable, variegated trachyte, upheaved to the vertical across the stream. Directly across this ledge countless ages of erosion have formed, first, a shallow, trough-like channel; then, or simultaneously with this channel, a vertical orifice several feet long by one foot wide, between the strata, some two feet from the brink. There is a similar orifice eight or ten feet farther up stream, so large and deep as to undermine the intervening brink of the falls, where the impetuous water and rocky *debris*, by first cutting a circular channel and ultimately greatly deepening it, have eroded one of the finest archways I have ever seen, which has about ten feet of stone support for a carriage-way above, and thirty feet of water-way beneath. The chasm is fully spanned by the Bridge,

which by measurement I found to be twenty-nine feet long, and, including the above mentioned vertical orifice, ten feet high above the top of the arch, and forty-one feet to the bed-rock of the chasm, which at this point changes into a water-fall."

Leaving the Natural Bridge, the tourist follows on down the Lake and river to the *Mud Geysers*, which point is six miles below the Lake and fourteen from the Natural Bridge, making in all a distance of fifty-four miles by this route from Upper Geyser Basin to Mud Geysers.

FROM LOWER BASIN TO MUD GEYSERS AND LAKE.

From Lower Basin, the wagon road and trail pass up the east fork of Fire Hole River, and by Mary's Lake to Mud Geysers, twenty miles; from Mud Geysers to Lake six miles, being by this route thirty miles from Upper Basin to Mud Geysers, and thirty-six to the Lake. This is the route most tourists take, since it is shorter and a much better road. But those who desire to see the Natural Bridge and Boiling Pool in Lake, had better travel the Shoshone Trail.

MUD GEYSERS.

The Mud Geyser, formerly the most interesting feature of this collection of springs, pools, etc., has been dead for four years. However, there are two very interesting things in this locality yet. The first is the Mud Volcano, just against and on the side of the hill, west

of the others of this group. It will be easily found from the large quantity of steam issuing from it, and by the noise it makes. As you stand upon the brink of the crater and look down into it, you can get glimpses of the boiling, charging mud, as the steam clears away occasionally. It belches forth from under the mountain in a horizontal line, strikes the side of the crater at the bottom, and runs right back in again. It is in many respects a hideous sight and sound, yet it seems to fascinate the beholder; he feels like staying there until he more thoroughly understands it. There is another, somewhat singular in its action, farther to the north, about twenty rods distant. But this one throws clear water; but it only throws it to its mouth, and very little runs away. The water is 200° Fahrenheit. The stone about and above the mouth—for it is a cave or cavern in the hill-side—is made perfectly green by the steam or ingredients of the water. These two objects are the only wonders of peculiar interest in this locality. No tourist should pass without closely inspecting them. The first of these is called the "Mud Volcano;" the latter the "*Belcher*," because of its peculiar action and noise.

This point on the river is called the "*Nez-Perçè Ford*," because of the fact that these Indians crossed the river here when pursued by Gen. Howard in the memorable

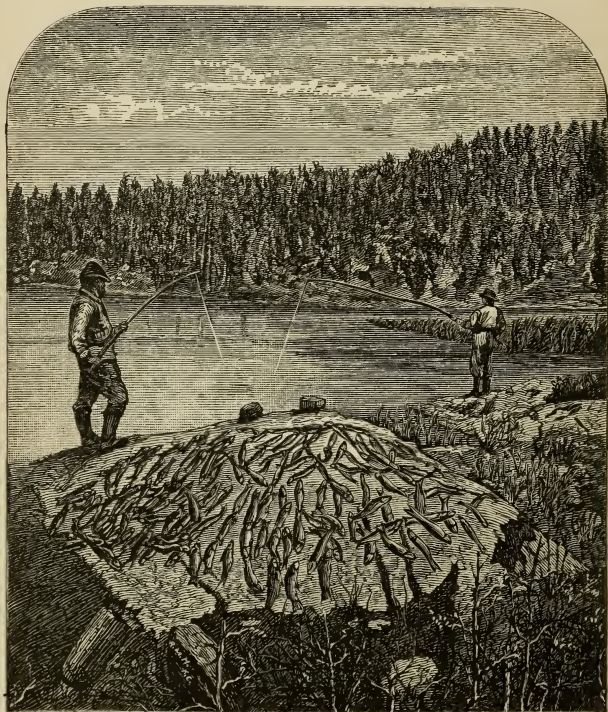
campaign of 1877. Here may be found mounds or ridges of dirt thrown up by the Indians, to be used as breast-works in case of the anticipated attack of Howard's forces.

SULPHUR MOUNTAIN.

About four miles farther towards the Falls brings the tourist to Sulphur Mountain. This is certainly a wonderful place. It stands out in the open prairie. A small grove almost surrounds it. No other mountains or trees near it. It is not a very high Mountain. Its entire surface has the appearance of weather-worn or colored sulphur, and all over it are little steam vents, from which issue little jets of steam—clearly discernible on a clear, cool morning or in frosty weather, giving a remarkable appearance to the Mountain. These vents are found all about the base of the Mountain also, and the tourist must exercise care in walking about, lest he break through and be scalded by the hot steam. Breaking up the surface around one of these vents, the finest crystals of sulphur are found, too delicate, however, to be transported as specimens.

At the southern base of this Mountain is found a wonderful boiling spring; of it Mr. Langford says:—

“The most conspicuous of the cluster is a sulphur spring twelve by twenty feet in diameter, encircled by a beautifully scalloped sedimentary border, in which



FISHING IN THE PARK.

the water is thrown to a height of from three to seven feet. The regular formation of this border, and the perfect shading of the scallops forming it, are among the most delicate and wonderful freaks of nature's handiwork. They look like an elaborate work of art. The gentle slope around it, for a distance of 300 feet, is covered to considerable depth with a mixture of sulphur and brown lava."

Almost east of this spring, or rather south of east, on south side of trail, just through edge of timber, may be found some very interesting Mud Pots. Entering this Basin as indicated, the most interesting one is met with; the mud is of a lavender color, thick enough to take most interesting shapes, as the steam and gases are permitted to escape through it. This Mud Pot is not seen by most tourists. It was not until my third tour of the Park that I found it. There is a boiling, muddy pool nearly straight south of the spring above described, which must not be taken for the Mud Pots.

SULPHUR MOUNTAIN TO FALLS.

The water of many of the springs in this locality is strangely impregnated with alum. Leaving Sulphur Mountain, the tourist passes on towards the Falls—the next object of interest. The distance from Sulphur Mountain to Falls is called six miles, but the tourist will think them long ones. Of the river

and country between these points, Mr. James Richardson says:—

“Half a mile above the Upper Fall, the Yellowstone gives no intimation of its approaching career of wildness and grandeur. It rolls peacefully between low, verdant banks, and over pebbly reaches or spaces of quicksand, with beautiful curves and majestic motion. Its waters are clear and cold, and of the emerald hue characteristic of Niagara. Great numbers of small springs, fed by the slowly melting snows of the mountains, flow from the densely wooded foot-hills, irrigating the ‘bottoms’ and sustaining a growth of grass and flowers that clothe the lowlands with freshness and vividness of color. Everything terrific, diabolic, volcanic, would seem to have been left behind. The first hint to the contrary is given by a pretty little rivulet, a yard wide and a few inches deep, clear as crystal, winding along through the rank grass to join the Yellowstone. It looks like any clear-watered mountain stream, but a single taste shows that it has a different origin. It is strongly charged with alum, hence its name, *Alum Creek*.”

One-half mile above the Upper Fall, the river changes into a series of beautiful rushing rapids, and as the trail passes close by the river brink, the tourist has the finest opportunity for viewing these.

UPPER FALLS OF YELLOWSTONE.

On the brink of this Fall, the river is confined to a width of little more than 100 feet between low, rocky

walls. Of this Fall Prof. Hayden, in Geological Report, says:—

“Above the Upper Falls, the Yellowstone flows through a grassy, meadow-like valley, with a calm, steady current, giving no warning, until very near the Falls, that it is about to rush over a precipice 140 feet high, and then, within a quarter of a mile, again to leap down a distance of 350 feet.

“From any point of view the Upper Falls are extremely picturesque and striking. The entire body of water seems to be, as it were, hurled off the precipice with the force which it has accumulated in the rapids above, so that the mass is detached into the most beautiful snow-white, bead-like drops; and as it strikes the rocky basin below, it shoots through the water with a sort of *ricochet* for the distance of 200 feet.”

Of the river between the Falls the Superintendent of Park, Colonel Norris, has written:—

“Flow on, thou lovely river,
Go smiling on thy way,
And gathered floods deliver
In thunder, mist, and spray,
Amid the arching rainbows,
High o’er the triple falls,
Where quivering, mystic halos
Bright tint the Cañon walls.

LOWER FALLS.

“After the waters roll over the upper descent, they flow with great rapidity over the flat, rocky bottom, which spreads out to nearly double its width above the

Falls, when the channel again contracts, and the waters seem, as it were, to gather themselves into one compact mass, and plunge over the descent of 350 feet, in detached drops of foam as white as snow. Some of the large globules of water shoot down like the contents of an exploded rocket. The entire mass of the water falls into a circular basin, which has been worn into the hard rock, so that the rebound is one of the grand features of the scene."

The first impression, I think, of most tourists, on first beholding this Fall, is that it is not as high as they expected; but this feeling soon gives way to that of * grandeur and amazement. The water is confined into such a narrow space upon the brink of the Fall (less than 200 feet) that it at first looks smaller than expected. But the vast quantity of water, and the beautiful shape it takes in falling, soon almost entrance the beholder. Then, too, the fact that from every good point of view the beholder is so far above the brink of the Fall, makes it seem not so high. But as one begins to comprehend the wonderful depth of the cañon beneath him, the Falls soon seem to loom up until he is quite willing to pronounce them 350 feet. This is the measurement given in both Prof. Hayden's and Captain Jones' official reports; the latter, I believe, having actually measured it with a line. The height of 367 feet was once obtained by barometrical measurement.

There is a trail leading to brink of Falls. But the best points from which to view the Falls are along the cañon at different places, as far down as Point Lookout. Point Lookout is about one mile below the Falls.

THE GRAND CAÑON.

This is the part of the Park that tongue or pen can give no adequate idea of. The author had read many—what he thought—fine descriptions of it before seeing it; but when he beheld it, he could not help exclaiming, “The half was never told.” But since some explanation of it may be expected in a book of this kind, and since all who read this book may not be able to visit the Park and see for themselves, I will give some brief descriptions, from the pens of those much more gifted in descriptive powers than myself. Prof. Hayden says:—

“But no language can do justice to the wonderful grandeur and beauty of the Cañon below the Lower Falls; the very nearly vertical walls, slightly sloping down to the water’s edge on either side, so that from the summit the river appears like a thread of silver foaming over its rocky bottom; the variegated colors of the sides—yellow, red, brown, white—all intermixed and shading into each other; the gothic columns of every form, standing out from the sides of the walls with greater variety and more striking colors than ever

adorned a work of human art. The margins of the Cañon on either side are beautifully fringed with pines. In some places the walls of the Cañon are composed of massive basalt, so separated by the jointage as to look like irregular mason-work going to decay. Here and there a depression in the surface of the basalt has been subsequently filled up by the more modern deposit, and the horizontal strata of sandstone can be seen. The decomposition and the colors of the rocks must have been due largely to hot water from the springs, which has percolated all through, giving to them the present variegated and unique appearance. Standing near the margin of the Lower Falls, and looking down the Cañon which looks like an immense chasm or cliff in the basalt, with its sides 1200 to 1500 feet high, and decorated with the most brilliant colors that the human eye ever saw, with the rocks weathered into an almost unlimited variety of forms, with here and there a pine sending its roots into the clefts on the sides, as if struggling with a sort of uncertain success to maintain an existence—the whole presents a picture that would be difficult to surpass in nature. Mr. Thomas Moran, a celebrated artist, and noted for his skill as a colorist, exclaimed with a kind of regretful enthusiasm, that these beautiful tints were beyond the reach of human art. It is not the depth alone that gives such an impression of grandeur to the mind, but it is also the picturesque forms and coloring.”

The above I have quoted as fully because it is authentic, being taken from Prof. Hayden's official re-

port of his geological survey of this region. Mr. Richardson says:—

“It has no parallel in the world. Through the eye alone, can any just idea be gained of its strange, awful, fascinating, unearthly blending of the majestic and the beautiful; and even in its visible presence the mind fails to comprehend the weird and unfamiliar, almost incredible scenes it reveals.”

The author had the pleasure of sitting beside and conversing with the famous American artist, Bierstadt, as he was seated on a point in the Grand Cañon about 400 feet below the surface—engaged in reproducing in oil, upon canvas, the Grand Cañon and Falls. It was indeed marvelous to see with what rapidity and accuracy these scenes were by him transferred to the canvas. He then remarked to me that a different picture could be taken at almost every hour in the day, since a difference in the direction of the sun's rays made a difference in the appearance of the colors in the Cañon. Many tourists are ambitious to make the descent to the water's edge in this Cañon. There is an *unsafe* foot trail to bottom of Cañon, starting down the bed of the little stream just at the right of *Point Lookout*. It is an undertaking which—aside from being dangerous—scarcely repays one for the exertion necessary, since from any obtainable point at the water's edge, the Falls cannot be

seen, because of the crookedness of the stream and the precipitous walls of the Cañon.

The finest points from which to view the Cañon are from one to two miles below the Lower Falls. None should fail to go down the trail close to the Cañon for at least *three* miles below the Falls, viewing from all projecting and safely attainable points in that distance. About three miles below the great Falls, perhaps four, on opposite side of the Cañon, is a beautiful fall of a small stream. The water enters at brink of Cañon, which at this place must be at least 1500 feet deep, and nearly perpendicular. It is a fall worth going to see.

This Cañon trail may be traveled all the way to Tower Creek. But it was the experience of those who used it this summer, and who had before traveled the old trail leading to the left from Falls, near Cascade Creek—that the old trail, passing on the west of the summit of Mt. Washburn, is much the better trail. But it perhaps is much as I heard a man say of these trails this season, "*Whichever* trail you go, you'll wish you'd gone the other one."

None will be, or no one should be in a hurry to get away from this camp. And this leads me to mention that the best place to camp at the Falls and Cañon, is up along the little stream which passes under the Bridge on the trail at Point Lookout. There is a trail leading

from this Bridge up through the timber, just west of the little stream. The camping grounds will be found in less than one-fourth of a mile up this trail. This camp is convenient to the finest part of the Cañon, and to the best points from which to view ; but more than all, convenient to the finest water and good grass a little farther north on same trail.

The writer knows whereof he speaks, as he was camped at this place ten days the present season.

TWIN FALLS AND SAFETY VALVE GEYSER.

About ten miles below the Falls there is a trail made leading down into the Cañon. It is called "*Trail to Twin Falls and Safety Valve Geyser.*" The writer, with Mr. Calfee, went to the water's edge down this trail; took our horses until we had descended to a depth of 1200 feet by an Aneroid barometer, then about 200 feet to brink of river without them.

This trip can only be recommended for the most venturesome. Very few, I think, will feel repaid for the risk, time spent, and trouble experienced. The scenery is not remarkable. The Geyser is little more than a small escape vent for steam. There is much evidence of there having been a large geyser basin a little farther down the trail from this steam escape.

The enterprise of the worthy Superintendent of

Park, shown in his skill in finding and zeal in opening ways to these out-of-the-way places, is certainly commendable; but we are not of those who either go into ecstasies over these minor objects of interest, or try to lead others into places where they will *generally* regret having gone.

CRYSTAL FALLS.

Between the Upper and Lower Falls of the Yellowstone, are the Crystal Falls of Cascade Creek. The trail passes over a strong bridge just a little above these Falls, and exactly over the beautiful Grotto Pool. Good strong ladders from the bridge give the tourist the opportunity of visiting and resting by the side of this Pool, and of standing at brink of these Falls.

The only opportunity for fishing in the locality of Falls, is had by descending this little Creek to the Yellowstone. The fish are good and plentiful between the Falls of Yellowstone, but *generally* wormy above. On leaving the Falls and cañon for Mt. Washburn, the westward, and at present better trail leaves the river near Cascade Creek, on the eastward bank. The other trail follows the Grand Cañon about four miles.

MT. WASHBURN.

The summit of Washburn is reached by turning to the right from the highest point on the trail. The

summit being about two miles from the trail, tourists can ride to the summit. On the river trail the summit is reached by turning to the left from highest point on trail. The ascent is not so easily made on this side and the distance is greater. None should think it too much fatigue and trouble to go to the summit of this grand old Mountain. The view obtained from this point is so learnedly and attractively expressed by Prof. Hayden that I again quote from his report:—

“The view from the summit of Mt. Washburn is one of the finest I have ever seen; and although the atmosphere was somewhat obscured by smoke (not often the case), yet an area of fifty to 100 miles radius in every direction could be seen more or less distinctly. We caught the first glimpse of the great Basin of the Yellowstone (he was traveling south) with the Lake, which reminded one much, from its bays, indentations and surrounding mountains, of Great Salt Lake. To the south are the Tetons, rising high above all the rest, the monarchs of all they survey, with their summits covered with perpetual snow. To the southwest an immense area of dense pine forests extends for 100 miles without a peak rising above the black level map. A little farther to the southwest and west are the Madison Mountains, a lofty, grand, snow-capped range, extending far to the northward. Nearer and in full view, to the west, commence the bold peaks of the Gallatin Range, extending northward as far as the eye can reach. To the north we get a full view of the Valley



BEE-HIVE GEYSER.

of the Yellowstone, with the lofty ranges that wall it in.

"Emigrant Peak and the splendid group of mountains of which it is a part, can be clearly seen; and lose none of their marvelous beauty of outline, view them from what point we may. To the north and east the eye scans the most remarkable, chaotic mass of peaks of the most rugged character, apparently without system, yet sending their jagged summits high up among the clouds. Farther distant are somewhat more regular ranges, snow-covered—probably the Big Horn. But with all this magnificent scenery around us from every side, the greatest beauty was the Lake, in full view to the southeast, like a gem amid the high mountains, which are literally bristling with peaks, many of them capped with snow. These are all of volcanic origin, and the fantastic shapes which many of them have assumed under the hand of Time, called forth a variety of names from my party. There were two of them which represented the human profile so well that we called them the 'Giant's Face' and 'Old Man of the Mountains.' These formed good land marks for the topographer, for they were visible from every point of the Basin."

In passing over Mt. Washburn the lover of rocks may find many fine specimens of—*sometimes*—agates, beautiful fragments of sardonyx, chalcedony, and malachite. But the chief attraction in passing this mountain range, is the wonderful variety and abundance of most beautiful

flowers. The writer camped one night in a little park near the summit of this Mountain, in first week in August. We obtained our water from under the edge of a great snow-bank, and the water froze in our camp that night, forming ice one-fourth of an inch thick ; and so it was every night, and yet the beautiful green grass and endless variety of flowers in the little park showed no signs of frost, after being warmed and cheered by the bright sun. This is one of the wonders of Wonderland—that the flowers are not injured by the almost nightly frosts. The distance over this Mountain or range is twelve miles. Descending the Mountain the grade is very gradual toward *Tower Creek*, which is seventeen miles from Yellowstone Falls.

TOWER FALLS.

This is one of the most delightful camps in the Park. Good grass, water of the Creek as cold as ice, and everything in scenery calculated to cheer, comfort, and rest the tourist. And here, too, is the finest fishing place in the Park. Not in Tower Creek above the Falls, but in Yellowstone about the mouth of Tower Creek ; and the fish are all healthy and good here. Grasshoppers, which are usually plentiful here, are the best bait. Every grasshopper caught means a fish, as the writer from experience can testify. Mr. Calfee and myself, after a

days' hard work, went down to the river to catch fish for supper. Mr. Calfee captured seven hoppers and I got one. We went and fished. I caught one fish, and he only caught seven with all his hoppers; so I did as well *at fishing* as he did.

There are two Falls here, same as in Yellowstone, an upper and a lower Falls. The upper are just a few rods above the lower; very pretty, but not very high. Many have pronounced Tower Falls a finer sight than the great Falls of Yellowstone. In point of simple beauty, they do compare favorably; but the feeling of *grandeur* inspired by the great Falls is, of course, lacking here. The water falls, in a concentrated form, 156 feet without a touch of wall or rock before it meets the pool below. Because of the wonderful rapidity of the stream, it seems to be hurled from the brink as if from the nozzle of a *great* hose-pipe. This Fall takes its name from the beautiful pinnacles or towers, which stand perpendicular at either side of the brink.

"Nothing," says Lieut. Doan, "can be more chastely beautiful than this lovely cascade, hidden away in the dim light of overshadowing rocks and woods, its very voice hushed to a low murmur—unheard at the distance of a few hundred yards. Thousands might pass by within a half mile, and not dream of its existence; but once seen, it passes to the list of most pleasant memories."

The tourist can get to the foot of these Falls without

much trouble ; and will feel greatly repaid for the fatigue experienced in climbing the steep trail. Leaving here, the trail crosses Tower Creek upon a bridge; and going up a very steep hill, the wagon road from Mammoth Hot Springs is found. This is the terminus of the wagon road at present, and will be for some time. Three miles farther brings the tourist to

JACK BARONET'S BRIDGE.

This Bridge has been built and used chiefly by those interested in the *Clark's Fork* Mines, which are eastward from this Bridge thirty-five miles. Tourists who visit Specimen Mountain, Soda Butte Springs, and Hoodoo Basin, cross the Yellowstone upon this Bridge. As there does not one tourist in 500 visit these points, their description is left for another part of the book ; and for the convenience of the general tourist, the tour is completed here without this description. Mammoth Springs is eighteen miles from this Bridge, and is the last objective point of the trip. About one mile from the Bridge a beautiful grassy valley is entered, called *Pleasant Valley*. To the southwest of this valley, just before beginning the ascent of the hill, and about four miles from the Bridge, is the

PETRIFIED FOREST

Or, more truthfully, the petrified trees that give rise to

the name "Petrified Forest." There are but a few of these trunks of old trees still standing, but they are real petrifications, and well worth turning from the road to see. The road from Bridge to Mammoth Springs is a pleasant one, mostly through open country. The next object of special interest after leaving the petrified trees, is the

EAST GARDNER RIVER FALLS.

These Falls cannot be missed, as the road passes very close to them. There is here, too, an upper and a lower Fall. This Fall or Falls being, I believe, the tenth Falls or cascades, mentioned in this tour of the Park. *These* Falls will be highly appreciated by all tourists.

Three miles farther on and the tourist is at the Mammoth Hot Springs, the place of starting on this tour now completed.

HOODOO BASIN.

This singular locality, lately discovered, is fifty miles southeast from Baronet's Bridge. The trail to it is over and through a very wild and rough country; has just been opened this year, and is, on that account, not very inviting to the ordinary tourist. In the country traversed by this trail, there is and will be, until travel is greatly increased, a better chance for finding game than in most parts of the Park.

This Hoodoo region is not, as the name "Basin"

would indicate, a low flat place surrounded by hills or mountains, but is itself situated high upon a mountain, is not seen or detected at a distance; but once entered, it is interesting in the extreme. Col. Norris, in his report of this region, says:

“Hoodoo Mountain is evidently of volcanic origin, and was eroded into its present form. Upon its southern face it is still changing. Here, extending from 500 to 1500 feet below the summit, the frosts and storms of untold ages in an Alpine climate have worn about a dozen labyrinths of countless deep, narrow, torturous channels amid the long, slender, tottering pillars, shafts and spires of the conglomerate—breccia and other remaining volcanic rocks.”

In shape they resemble almost every conceivable form of animal, as well as human beings.

SPECIMEN MOUNTAIN.

Specimen Mountain is of little interest, aside from the fact of specimens being found there. These consist almost entirely of pieces of petrified wood. And this is difficult to find unless some one well acquainted with the locality be along, to show where specimens may be found. This place is about two miles from the bridge, southeast.

SODA BUTTE SPRINGS

Are fourteen miles from the bridge, and are noted for

being strongly impregnated with soda, making a delicious drink.

The scenery from the bridge to Clark's Fork Mines, thirty-five miles, is very fine. These Mines are at present promising well, and those interested in them are anxiously awaiting the ratification by Congress of the treaty made with the Crow Indians last season, by which treaty this portion of country is given back to the general Government.

THEORY OF THE CAUSES OF GEYSER ACTION.

Since the question, "What causes all this action and heat?" very naturally arises, and is very frequently heard in the Park, it may not be out of place to give here, in as simple a form as possible, the theory supported by the best geologists and scientists, among them the renowned Professors Dana, Bunsen, and Tyndall. Everything in the region of these hot-water localities proves this portion of our country to have been of volcanic origin. The theory, based upon the conclusion that the interior of the earth is a heated, molten mass, is that there are fissures, or conduits, reaching down through the earth's crust, in these localities, to the heated rocks of the interior. The water, which is ordinarily found beneath the surface of the ground finds, the conduits and naturally enough percolates or runs down them, in obedience to the laws of gravitation. This water meets the heat as-

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ceding through the vent, or itself comes in contact with heated rocks, is converted into steam, which ascends, heating the water above, and in thus passing through the descending water, heats and boils the water at the surface; and in this manner the boiling pools are accounted for. The geyser action is caused by the descending water confining the steam below until an immense quantity is generated, which, in its final effort to escape, causes what may be termed an explosion; and being confined in every direction—save that of the orifice—by strong walls of rock, the escape is made in the direction of and through the orifice, projecting the water,—which is above and has been confining the steam—to great heights; much steam escapes with the water, but the greater amount of steam is thrown out after the water has been exhausted. The water is heated by the steam constantly, working its way up through it.

The beautiful and different colors surrounding these pools or geysers are due to the composition of the rocks through which the vents or fissures pass, and portions of which are dissolved by the water, and carried to the surface, and there deposited in the formation and channels about the orifice.

EARLIEST PUBLICATIONS CONCERNING THE PARK.

It is indeed strange that this remarkable portion of country, now set apart by our Government as National

pleasure-grounds, has been known to the world for so short a time. It may be authentically stated that the Park has been known to the general public for the short period of eleven years.

Although trappers and prospectors had at different times passed through and seen some portions of the Park, and had tried to convince others of what they beheld, yet their stories were received as characteristic lies, and the general public lived on in ignorance of the fact that the greatest natural wonders of the world existed within the borders of our republic.

The first *published* statement of these wonders, that the author could find, is that given below, taken from the *Montana Post*. The communication was dated Yellowstone City, Montana, August 18, 1867. Yellowstone City was a thriving mining village, nearer the boundary of the Park than any town at present is. The communication was written by Davis Willson, now of Bozeman, Montana. As will be seen, his information was obtained second-handed. The article is given entire for the purpose of showing how exaggerated were the ideas then obtained of what is now so well known:—

“A portion of the Bear Gulch stampedeers has returned. They have been to the Lake at the head of Yellowstone, and report the greatest wonder of the age.

For eight days they traveled through a volcanic country emitting blue flames, living streams of molten brimstone, and almost every variety of minerals known to chemists. The appearance of the country was smooth and rolling, with long level plains intervening. On the summits of these rolling mounds, were craters from four to eight feet in diameter; and everywhere upon the level plains, dotting them like prairie-dog holes, were smaller ones, from four to six inches and upwards. The steam and blaze were constantly discharging from these subterranean channels, in regular evolutions or exhaustions, like the boilers of our steamboats, and gave the same roaring, whistling sound. As far as the eye could trace, this motion was observed. They were fearful to ascend to the craters, lest the thin crust should give way and swallow them. Mr. Hubbel (one of the party), who has visited this region before, ventured to approach one of the smaller ones. As he neared its mouth, his feet broke through, and the blue flame and smoke gushed forth, enveloping him. Dropping upon his body, he crawled to within a couple of feet of the crater, and saw that the crust around its edge was thin, like a wafer. Lighting a match, he extended it to the mouth and instantly it was on fire. The hollow ground resounded beneath their feet as they traveled on, and every moment it seemed liable to break through and bury them in its fiery vaults. The atmosphere was intensely suffocating, and they report that life could not long be sustained there. Not a living thing—bird or beast—was seen in the vicinity. The prospectors

have given it the significant name—'Hell!' They declare they have been to that 'bad place,' and even seen the 'Devil's horns;' but through the interposition of Providence (not to speak profanely), their 'souls have been delivered,' and they emphatically aver, if a 'straight and narrow' course, during their sojourn on the Yellowstone, will save them, they will never go there again."

This article was copied throughout the country by other papers, and doubtless served to awaken an interest concerning this unknown land; yet the general public were indebted for their first knowledge of the marvels of this region, to the reports of an expedition organized in the summer of 1870, by some of the officials and leading citizens of Montana. This was the company led by General Washburn. Mr. N. P. Langford's account of this expedition was given in the second volume of *Scribner's Monthly Magazine*. Lieutenant Doan's report of the same was published by the Government, and given to the world somewhat later. Following these came Prof. Hayden's reports. The following contains so much concise information regarding the early history of the Park that it is copied from Mr. Richardson's book.

THE YELLOWSTONE PARK.

(Taken from Richardson's "Wonders of the Yellowstone").

As soon as Dr. Hayden could make known officially the results of his exploration of the Yellowstone Basin, action was begun to secure the reservation of a portion at least of the marvelous scenes which it embraces, for the undivided benefit, enjoyment, and instruction of the country at large.

A bill to this effect was introduced into the Senate of the United States, on the 18th of December, 1871, by Hon. S. C. Pomeroy, of Kansas. About the same time a similar bill was offered in the House of Representatives by Hon. William H. Claggett, delegate from Montana. The bill was referred to the Committees on Public Lands in both houses, who, after due consideration, returned with approbation the following report prepared by Dr. Hayden:—

“The bill now before Congress has for its object the withdrawal from settlement, occupancy, or sale, under the laws of the United States, a tract of land fifty-five by sixty-five miles, about the sources of the Yellowstone and Missouri Rivers, and dedicates and sets it apart as

a great National Park, or pleasure-ground, for the benefit and enjoyment of the people. The entire area comprised within the limits of the reservation contemplated in this bill, is not susceptible of cultivation with any degree of certainty, and the winters would be too severe for stock-raising. Whenever the altitude of the mountain districts exceeds 6000 feet above tide-water, their settlement becomes problematical, unless there are valuable mines to attract people. The entire area within the limits of the proposed reservation is over 6000 feet in altitude; and the Yellowstone Lake, which occupies an area fifteen by twenty-two miles, or 330 square miles, is 7427 feet. The ranges of mountains that hem the valleys in on every side rise to the height of 10000 and 12000 feet and are covered with snow all the year. These mountains are all of volcanic origin, and it is not probable that any mines or minerals of value will ever be found there. During the months of June, July, and August the climate is pure and most invigorating, with scarcely any rain or storms of any kind; but the thermometer frequently sinks as low as 26°. There is frost every month of the year. The whole region was, in comparatively modern geological times, the scene of the most wonderful volcanic activity of any portion of our country. The hot springs and the geysers represent the last stages—the vents or escape-pipes—of these remarkable volcanic manifestations of the internal forces. All these springs are adorned with decorations more beautiful than human art ever conceived, and which have required



CRYSTAL FOREST, MAMMOTH SPRINGS.

thousands of years for the cunning hand of nature to form. Persons are now waiting for the spring to open, to enter in and take possession of these remarkable curiosities, to make merchandise of these beautiful specimens, to fence in rare wonders, so as to charge visitors a fee, as is now done at Niagara Falls, for the sight of that which ought to be as free as the air or water.

"In a few years this region will be a place of resort for all classes of people from all portions of the world. The geysers of Iceland, which have been objects of interest for the scientific men and travelers of the entire world, sink into insignificance in comparison with the hot springs of Yellowstone and Fire Hole Basins. As a place of resort for invalids, it will not be excelled by any portion of the world. If this bill fails to become a law this session, the vandals who are now waiting to enter into this Wonderland will, in a single season, despoil, beyond recovery, these remarkable curiosities, which have required all the cunning-skill of nature thousands of years to prepare.

"We have already shown that no portion of this tract can ever be made available for agricultural or mining purposes. Even if the altitude and the climate would permit the country to be made available, not over fifty square miles of the entire area could ever be settled. The valleys are all narrow, and hemmed in by high volcanic mountains like gigantic walls.

"The withdrawal of this tract, therefore, from sale or settlement takes nothing from the value of the public domain, and is no pecuniary loss to the Government,

but will be regarded by the entire civilized world as a step of progress and an honor to Congress and the nation."

In the Senate the bill was ably advocated by Messrs. Pomeroy, Edmunds, Trumbull, Anthony and others. In the House the favorable remarks of Hon. H. L. Dawes were so clear and forcible that the bill was passed without opposition.

The text of the Act is as follows:—

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the tract of land in the Territories of Montana and Wyoming, lying near the head-waters of the Yellowstone River, and described as follows, to-wit, commencing at the junction of Gardiner's River with the Yellowstone River, and running east to the meridian passing ten miles to the eastward of the most eastern point of Yellowstone Lake; thence south along said meridian to the parallel of latitude passing ten miles south of the most southern point of Yellowstone Lake; thence west along said parallel to the meridian passing fifteen miles west of the most western point of Madison Lake; thence north along said meridian to the latitude of the junction of the Yellowstone and Gardiner's River; thence east to the place of beginning, is hereby reserved and withdrawn from settlement, occupancy, or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people; and all persons who

shall locate or settle upon or occupy the same, or any part thereof, except as hereinafter provided, shall be considered trespassers and removed therefrom.

"SEC. 2. That said public park shall be under the exclusive control of the Secretary of the Interior, whose duty it shall be, as soon as practicable, to make and publish such rules and regulations as he may deem necessary or proper for the care and management of the same. Such regulations shall provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities or wonders within said park, and their retention in their natural condition. The Secretary may, in his discretion, grant leases for building purposes for terms not exceeding ten years, of small parcels of ground, at such places in said park as shall require the erection of buildings for the accommodation of visitors; all of the proceeds of said leases, and all other revenues that may be derived from any source connected with said park, to be expended under his direction in the management of the same, and the construction of roads and bridle-paths therein. He shall provide against the wanton destruction of the fish and game found within said park, and against their capture or destruction for the purposes of merchandise or profit. He shall also cause all persons trespassing upon the same after the passage of this act to be removed therefrom, and generally shall be authorized to take all such measures as shall be necessary or proper to fully carry out the objects and purposes of this act."

This Act was approved March 1, 1872; and shortly

after the Hon. N. P. Langford, whose graphic descriptions of the Wonders of the Yellowstone first called public attention thereto, was appointed Superintendent of the Park.



PRACTICAL OBSERVATIONS.

BEST TIME TO VISIT PARK.

From July 1st to September 1st is the best season for visiting the Park, and even so early as September 15th tourists are sometimes caught in snow-storms. August is really the best month, as flies and mosquitoes are troublesome in July.

SMOKED EYEGLASSES.

As the formation in Geyser Basins, at Mammoth Hot Springs, Sulphur Mountain, and at other places, is almost as white as snow, the reflection of the light is very injurious and even painful to the eyes. All tourists should be provided with smoked glasses.

GOING ARMED.

There is no need of carrying arms for protection in the Park. There is no danger to life from either Indians or wild animals; and as game is so seldom seen, that for this purpose it is not necessary to carry guns.

AMOUNT OF PROVISIONS.

Take at least double the amount of provisions

think you will need, as you will find your appetite increases as the altitude increases, and as the time you are out lengthens.

KIND OF PROVISIONS.

For a camping-out season in this mountainous region and high altitude, a great *variety* of diet is not required. Plenty of bacon, flour, sugar, yeast powder, and tea or coffee are the essentials and substantials, and will relish well. For fruits, the dried varieties are the best and most convenient.

PATIENCE.

Take along a large supply of patience, as that is usually the first article exhausted, and the one most needed in a trip of this kind.

SIZE OF PARTIES.

Parties should not be too large, four or six persons, not counting attendants, being the most convenient number. Larger parties, I have noticed, cannot travel so well nor so fast. Nor can they enjoy the ease and freedom of smaller parties, and there are greater opportunities for petty disagreements.

CLEAR UNDERSTANDINGS BEFORE HAND.

Have clear understandings concerning all the

details of the trip before starting out, and thus avoid quarrels and misunderstandings so likely to occur. The writer has seen the pleasure of many parties marred by quarrels or differences which could have been avoided by having clear understandings from the first. Companions for camping-out trips should be selected with the *greatest* care.

COOL NIGHTS.

As the nights are always cool, too great a supply of bedding is not often taken. Rubber blankets should always be placed between the bedding and the ground to prevent dampness from penetrating the bedding.

GUIDES.

Guides are not much needed, but packers are; and as these two accomplishments are usually found combined in the same person, it is well to secure the services of one who calls himself a guide; and as tourists are frequently imposed upon by men *professing* competency in this particular, and who possess no qualifications whatever to render them worthy of patronage, I will mention here the names of a few whom I know to be *entirely* trustworthy, and who have been through the Park many times with distinguished tourists: George Houston, chief scout for General Howard in his memorable campaign through this country, and guide for

Ex-Secretary Sherman the present season; Nelson Catlin, who has guided many English parties; George Rowland, Sam Jackson, E. Hofer and F. D. Nelson. All of these will furnish both saddle and pack animals, with complete camp outfits, for either large or small parties, and will meet tourists at any point they desire. Letters to any of these men, directed to Bozeman, Montana, will find them. The above information is given without either the knowledge or solicitation of these men, and hence is not given as an advertisement for them.



TABLE OF DISTANCES

BETWEEN PRINCIPAL POINTS IN PARK.

	MILES.
Bozeman to Mammoth Springs.....	73
Mammoth Springs to Middle Falls on Gardiner River.....	5
Mammoth Springs to Rustic Falls.....	5
Willow Park.....	10—15
Obsidian Cliffs.....	2—17
Lake of the Woods.....	4—21
Norris Fork of Gibbon.....	6—27
Norris Geyser Basin.....	$\frac{1}{2}$ —27 $\frac{1}{2}$
Gibbon Meadows.....	5 $\frac{1}{2}$ —33
Monument Geysers and return.....	2—35
Falls of the Gibbon.....	5—40
Lower Geyser Basin.....	5—45
Upper Geyser Basin.....	11—56
Shoshone Lake.....	10—66
Yellowstone Lake.....	10—76
Natural Bridge	20—96
Mud Geysers.....	14—110
Sulphur Mountain	4—114
Great Falls.....	6—120
Mt. Washburn.....	10—130
Tower Falls.....	10—140
Jack Baronet's Bridge.....	3—143
Mammoth Springs.....	18—161

MILES.

Lower Geyser Basin to Mud Geysers.....	24
Mud Geysers to Lake.....	6
Jack Baronet's Bridge to Hoodoo Basin.....	50
“ “ “ Clark's Fork Mines.....	35
“ “ “ Soda Butte Springs.....	12
“ “ “ Specimen Mountain.....	2
Virginia City to Lower Geyser Basin.....	98

TABLE OF ALTITUDES OF PRINCIPAL POINTS.

FROM PROF. HAYDEN, GOV'T GEOLOGIST'S REPORTS.

	FEET.
Bozeman, Montana.....	4900
Mammoth Hot Springs.....	6100
Mt. Washburn.....	10338
Lower Geyser Basin.....	7250
Upper Geyser Basin.....	7400
Yellowstone Lake.....	7788
Brink of Great Falls.....	7485
Mouth of Tower Creek.....	6207



RULES AND REGULATIONS OF THE YELLOW-
STONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,

WASHINGTON, D. C., May 4, 1881.

1. The cutting or spoliation of timber within the Park is strictly forbidden by law. Also the removing of mineral deposits, natural curiosities or wonders, or the displacement of the same from their natural condition.

2. Permission to use the necessary timber for purposes of fuel, and such temporary buildings as may be required for shelter and like uses, and for the collection of such specimens of natural curiosities as can be removed without injury to the natural features or beauty of the grounds, must be obtained from the Superintendent; and must be subject at all times to his supervision and control.

3. Fires shall only be kindled when actually necessary, and shall be immediately extinguished when no longer required. Under no circumstances must they be left burning when the place where they have been



TOWER FALLS.

kindled shall be vacated by the party requiring their use.

4. Hunting, trapping and fishing, except for purposes of procuring food for visitors or actual residents, are prohibited by law ; and no sales of game or fish taken inside the Park shall be made for purposes of profit within its boundaries or elsewhere.

5. No person will be permitted to reside permanently within the Park without permission from the Department of the Interior ; and any person residing therein, except under lease, as provided in Section 2475 of the Revised Statutes, shall vacate the premises within thirty days after being notified in writing so to do by the person in charge ; notice to be served upon him in person or left at his place of residence.

6 The sale of intoxicating liquors is strictly prohibited.

7. All persons trespassing within the domain of said Park, or violating any of the foregoing rules, will be summarily removed therefrom by the Superintendent and his authorized employes, who are, by direction of the Secretary of the Interior, specially designated to carry into effect all necessary regulations for the protection and preservation of the Park, as required by the statute ; which expressly provides that the same "shall be under the exclusive control of the Secretary of

the Interior, whose duty it shall be to make and publish such rules and regulations as he shall deem necessary or proper;" and who, "generally, shall be authorized to take all such measures as shall be necessary or proper to fully carry out the object and purposes of this act."

Resistance to the authority of the Superintendent, or repetition of any offense against the foregoing regulations, shall subject the outfits of such offenders and all prohibited articles to seizure, at the discretion of the Superintendent or his assistant in charge.

APPROVED:

S. J. KIRKWOOD,

Secretary.

P. W. NORRIS.

Superintendent.



WAYS OF REACHING AND COST OF VISITING THE PARK.

The route to the Park most convenient and most practicable from now on will be the Northern Pacific by way of St. Paul. This road is rapidly extending, and by the time tourists desire to visit the Park the coming season, will, in all probability, have reached a point as near to, if not nearer, the Park than the nearest point of the Utah and Northern Railroad.

With regard to the accommodation of tourists who desire to visit the Park, and others wishing to visit Montana, Mr. G. K. Barnes, General Passenger and Ticket-Agent of the Northern Pacific Railroad, authorizes me to say that it is his intention to run a series of excursions from St. Paul to the terminus of the road, during the present season, beginning with June and closing with September, running one excursion per month.

He ran one in September, last season, which met with universal satisfaction to all who accompanied it; and in every way it was a pronounced success—both in numbers, accommodations, and satisfaction to the entire party.

The plan proposed is to leave St. Paul about the middle of each month, beginning with June, using only Pullman Palace Sleeping-cars during the entire trip, until the party shall have returned to St. Paul, the rates charged to include sleeping-car accommodations. While it is yet too early to fix definite rates, Mr. Barnes approximates rates to be : St. Paul to terminus of track and return, about \$60 for the round trip. Tickets good for continuous passage on this train, for parties desiring to accompany it, which will make a continuous run, night and day, until the journey is completed, that portion of the trip gone over by night going out, to be gone over by daylight on the return trip. The rate for parties who extend their trip from end of track thence to Bozeman, and from there to the Park, will have an extension of time, and their tickets will be increased between St. Paul and terminus, or about \$75. Added to this the stage rate from terminus of track to Bozeman, and thence to the Park, which will be about twenty cents per mile for the round trip, will give approximate cost of getting into the Park. The distance from Miles City to Bozeman is 325 miles, and from Bozeman to the Park seventy-five miles. The track is expected to be running to Coulson, where the road crosses the Yellowstone River, about June, and each month will shorten the distance of the stage route to Bozeman about fifty miles.

The trains on which this excursion will be carried, will be accompanied by the General Passenger Agent himself, who will stop the train at interesting points a sufficient length of time to visit and to take in all points that will be of interest to the excursionists.

He will also smooth the way as much as he can by telegraphing ahead for meals, and in every way will add to the comfort and convenience of the party, which lies within his province. He advises, as far as it can be done, for parties to take lunches with them, extra wrappings to use in case of an emergency on the road, and to read up before starting, as much as can be done, a description of the country. The purchase of Mr. Wylie's Hand-book, descriptive of the Yellowstone, the National Park, and the Wonderland of America, is suggested as the most reliable way of arriving at this information. The Northern Pacific Company are having hotels and eating-houses built along the route, and passengers may rest assured that there will be an abundance to eat while *en route*.

Due notice of dates and accommodations will be published in suitable advertising matter; at the same time it is suggested that parties who desire taking this trip will do well to correspond with G. K. Barnes, General Passenger and Ticket Agent, Northern Pacific Railroad, St. Paul, Minnesota.

At Bozeman tourists can procure everything they need for a complete outfit, viz: Provisions, tents, heavy clothing, horses (both pack and saddle horses), guides, etc., at rates very closely approximating those given in the accompanying list:—

Saddle-horses	\$ 30 00 to	\$ 75 00
Pack-animals	30 00 to	50 00
Saddles.....	10 00 to	25 00
Pack-saddles.....	3 00 to	5 00
Wagon (new).....	100 00 to	140 00
Tent.....	10 00 to	15 00
Flour, per 100 lbs.....	2 50 to	3 50
Beans, per lb.....	12 to	15
Coffee, per lb.....	25 to	35
Tea, per lb.....	40 to	1 25
Rice, per lb.....	15	
Dried fruit, per lb.....	16 to	20
Yeast powder, per lb.....	40 to	50
Bacon, per lb.....	22 to	22
Guides or packers for those who desire that luxury.....	\$ 3 00 to \$ 5 00 per day.	
Saddle-horses hired with saddles furnished	1 50 to 2 00	“ “
Pack-horses, with pack saddles.....	1 00 to 1 50	“ “

There is a supply store at Mammoth Hot Springs, and also in Lower Geyser Basin, where exhausted supplies may be replenished at rates reasonable for the locality, although much dearer than at Bozeman or Virginia City.

The above is a list of prices as they now exist. The nearer the railroads come to these points will the prices be reduced correspondingly.

I think I may safely state that for the coming season a trip to the Park in large parties, employing every convenience and comfort needed from end of track to and through the Park, returning to the railroad at the end of twenty days from time of leaving it, cannot cost, *every* expense included, more than \$200 per person from St. Paul round to St. Paul again. And I am sure many will go for less than this. *But* it is a trip that no one will ever regret having made, whatever the expense may have been.



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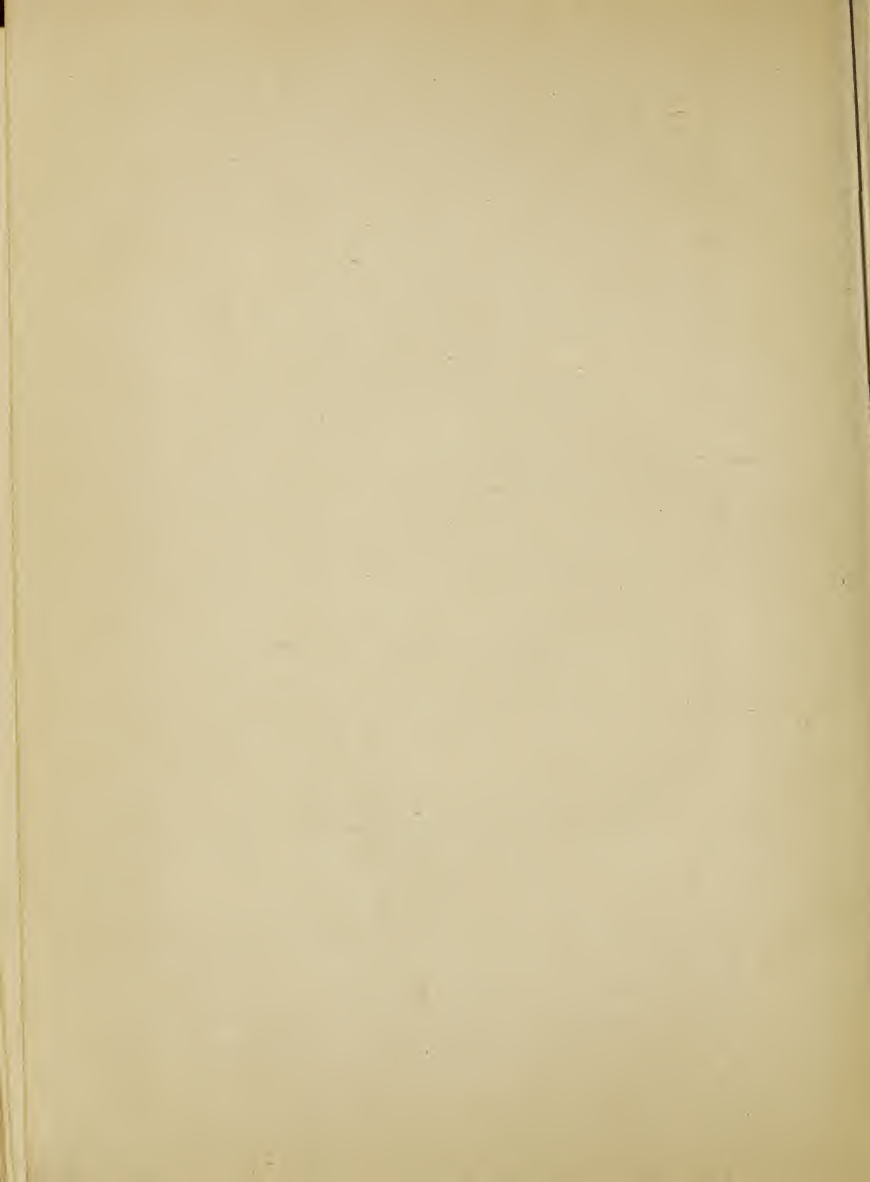
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